

OCPW ROSSMOOR CHANNEL
ROSSMOOR / LOS ALAMITOS, CALIFORNIA, U.S.A.**Channelling Works****Problem**

Rossmoor is a small, gated community in Orange County, Southern California, developed mainly during the '50s. During 2020 the OCPWD was facing issues with sections of failing concrete lining along with one of their county flood control channel constructed in the late 1950s, the Rossmoor Storm Channel, which is also the main drainage for the community. The project limits begin at the San Gabriel River Freeway culvert entrance into Rossmoor Basin and extend to Los Alamitos Blvd.

The existing 3" unreinforced concrete panels were showing signs of severe deterioration despite numerous patching repairs performed over the years. Existing damages to concrete panels and invert included cracking and crumbling concrete, uplift, buckling, voids, and separation from the slope.

The major concern was related to exposition to flood events and consequent channel erosion on these sections where the lining failed, and the increased discharge.

The main challenge was to design a structure strong enough to withstand the volume and velocity of the water that runs into the channel during flood events, but also something flexible able to accommodate possible deformations of the soil. Considering the possibilities, a solution was necessary that would guarantee durability for the long haul because of the type of application, the cost of the intervention and the difficult maintenance conditions.

Solution

Gabions and Reno Mattresses were selected as an immediate repair option due to their quick and easy constructability, still able to satisfy the project technical requirements.

The solution eventually adopted for the three critical sites identified were to utilize galvanized Reno Mattresses 6" thick, secured with a Platipus earth percussion wire tendon anchors, designed to stabilize the revetment. Maccaferri non-woven filter fabric was installed under the mattresses, helping to reduce the interface velocity and controlling the migration of fine particles from being washed away.

The mattresses were ideal for this type of hydraulic and erosion control application due to their flexibility, hydraulic performances, durability and energy dissipation features.

Client: ORANGE COUNTY PUBLIC WORKS DEPARTMENT

Designer / Consultant: Orange County Public Works Department

Contractor: Excel Paving Co.

Products used (Qty.)

- Reno Mattress	426
- Spenax Rings	57600
- MacTex N	3500
- Anchor Bar	8520

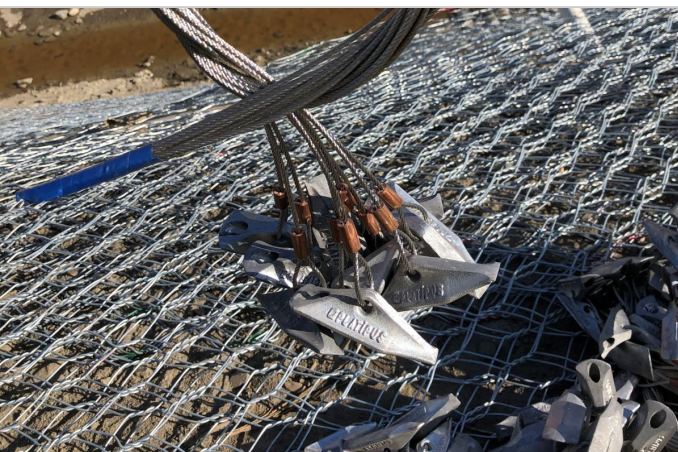
Date of construction: 08/2020 - 11/2020



Before Construction



During Construction



During Construction



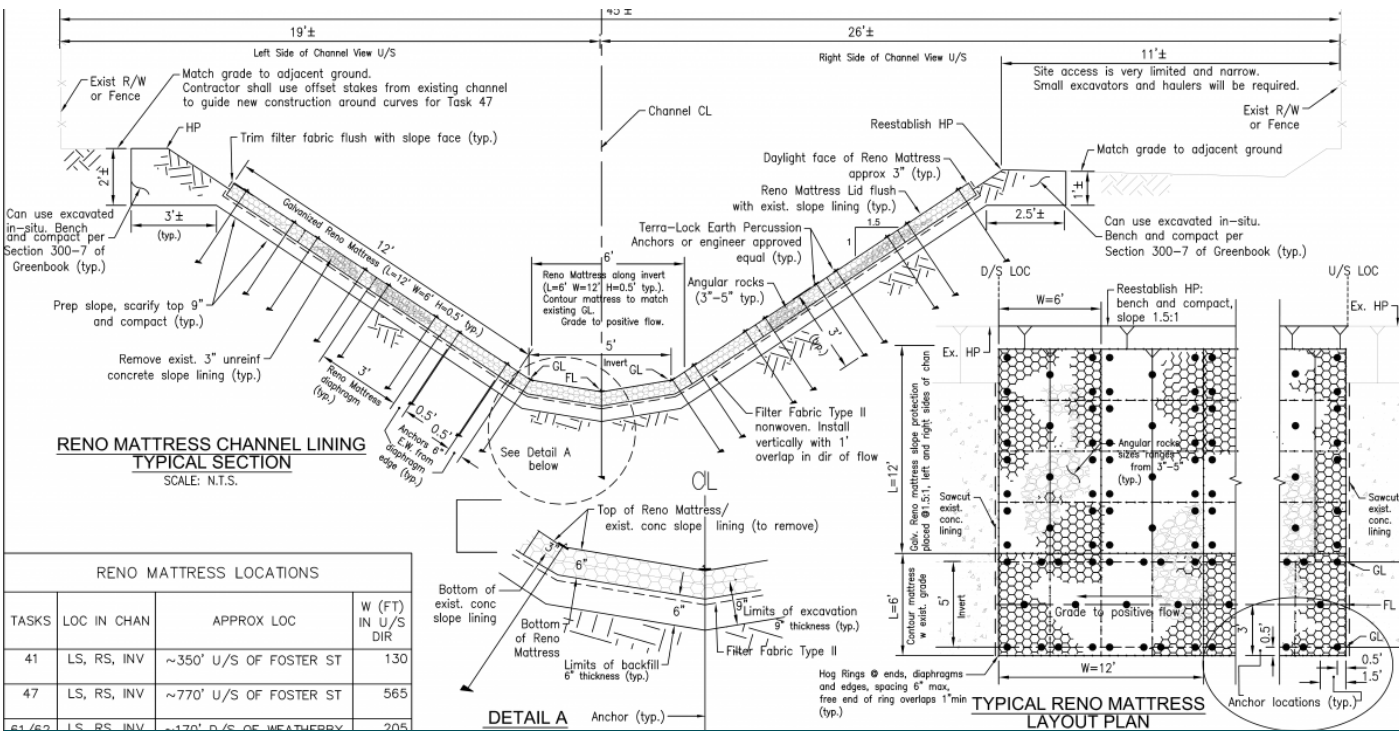
During Construction



During Construction



After Construction



Typical Cross Section

Maccaferri USA
10303 Governor Lane Boulevard
Williamsport, Maryland
21795
Tel: +1 301 223 6910
E-mail: info@us.maccaferri.com